

REMARKS

The Office Action mailed April 22, 2002 has been reviewed and carefully considered. Claims 1 and 13 have been amended. Claims 25 to 47 have been added. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested. Claims 1 to 47 are pending in this application, with claims 1, 13, 25 to 34, 40, 41 and 43 being the independent claims.

The Examiner's indication of allowable subject matter for claims 3 to 12 and 15 to 24 is appreciated.

The specification has been amended to correct grammatical errors. Support for the amending language is found in the specification on page 8, lines 5 to 7 and on page 15, lines 19 to 20.

Claims 1 to 24 were rejected under 35 U.S.C. §112, second paragraph, for indefiniteness due to lack of antecedent basis in the claims for the phrase "said base station." The preambles of independent claims 1 and 13 have been amended to recite "the reverse common channel of a base station" to provide antecedent basis. Support for these amendments is found in the specification on page 6, lines 23 to 25. Claims 1 and 13 have also been amended to correct the above-mentioned grammatical errors.

Claims 1, 2, 13 and 14 were rejected under 35 U.S.C. §103(a) as allegedly obvious over U.S. Patent No. 6,078,572 ("**Tanno**") in view of U.S. Patent No. 6,240,083 ("**Wright**").

In Tanno, a common reverse channel 10 is divided into an access channel 10A and a message channel 10B. When there is data (a data packet) to be transmitted by any mobile station 1-4, a mobile station having data to be transmitted transmits a transmission request signal including information, such as packet size or the like, by using the access channel 10A. In response, a base station 30 transmits a transmission permission signal, which designates a transmission timing of data and a spreading code to be used for transmitting, on the basis of the state of utilization of message channel 10B and the state of occurrence of data. The mobile stations 1-4 transmit data in accordance with the spreading code and the transmission timing which are designated from the base station 30.

In the present invention as recited in claims 1 and 13, the terminals transmit preambles upon which the base station performs code synchronization; whereas, Tanno fails to disclose or suggest that the Tanno transmission request signal is a preamble upon which the base station

performs code synchronization, as in claims 1 and 13. Tanno also fails to disclose that terminals "recognize the code synchronization detection" by the base station. Instead, the Tanno terminals are disclosed to merely receive a transmission timing and a spreading code (col. 7, lines 48-51).

Moreover, with regard to the Tanno base station designating the transmission timing, Tanno merely states that the base station designates the transmission timing to avoid collision of packets (col. 6, line 66). That is, Tanno fails to disclose "making the terminals to have attempted data transmission in the same time slot with the data of said code synchronization detection continue data transmission and the other terminals stop data transmission."

The Office Action suggests that Wright discloses a reverse channel Aloha transmission burst that includes a 6 bit synchronization sequence, and that modifying Tanno in view of Wright would provide a rapid acquisition of a transmission from mobile stations. What apparently is being suggested is that the Tanno transmission request signal be modified to incorporate a Wright 6-bit synchronization sequence. Such a sequence is, however, not a preamble. Nor would such modification entail code synchronization detection at the base station or cause terminals "to recognize the code synchronization detection." In addition, the proposed combination fails to make "the terminals to have attempted data transmission in the same time slot with the data of said code synchronization detection continue data transmission and the other terminals stop data transmission." With respect to independent claim 1, Wright does not disclose or suggest the deficiencies in Tanno. Accordingly, independent claims 1 and 13 are patentable over Tanno in view of Wright.

Dependent claims 2 to 12 and 14 to 24 are patentable for the reasons that independent claims 1 and 13 are patentable.

In the present invention as recited in new claims 25 to 30, 32, 33, 41 and 42, terminals having data to be transmitted attempt code synchronization through a common channel. If the terminal receives from the base station a broadcasted signal representing that code synchronization has been acquired, then the terminal continues transmitting data. If, on the other hand, the terminal receives a broadcasted signal representing that code synchronization has not been acquired, then the terminal stops transmitting data. As a result, power for data transmission and delay time can be reduced. Support for new claims 25 to 30, 32, 33, 41 and 42 is found in the specification, on page 15, line 21 to page 16, line 3 and in FIG. 3 and the related text on page 10, line 1 to page 12, line 25.

Contrary to the invention of claims 25 to 30, 32, 33, 41 and 42, Tanno fails to teach that the terminal determines continuation or stoppage of the data transmission based on a signal from the base station, the signal representing detection that code synchronization of the data has been or has not been acquired.

New independent claims 31 finds support in the specification on page 12, lines 7 to 20, and on page 15, lines 12 to 23.

New independent claim 34 finds support in claim 7.

New dependent claim 35 finds support in claim 8.

New dependent claim 36 finds support in claim 9.

New dependent claim 37 finds support in claims 9 and 10.

New dependent claim 38 finds support in claims 9 and 11.

New dependent claim 39 finds support in claims 9 and 12.

New independent claims 40 and 43 are method claims based on apparatus claims 31 and 34.

New dependent claim 44 is a method claim based on apparatus claim 36.

New dependent claim 45 is similar to claim 11, but has been reworded to recite that transmission occurs "at the boundary of each time slot." This amendment is supported in the specification on page 15, lines 4 to 5.

New dependent claim 46 finds support in claims 19 and 14.

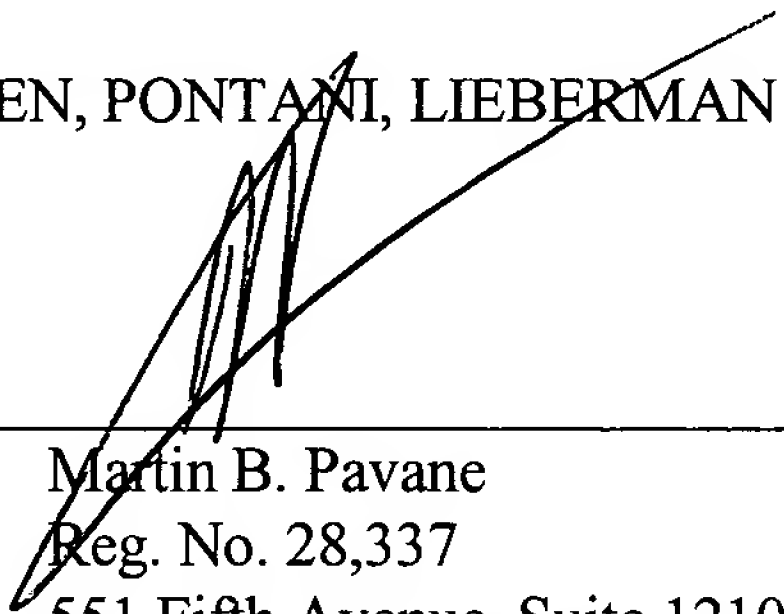
New dependent claim 47 is similar to claim 23, but has been reworded to recite that transmission occurs "at the boundary of each time slot." This amendment is supported in the specification on page 15, lines 4 to 5.

In view of the foregoing amendments and remarks, it is submitted that this application is now in condition for allowance.

Respectfully submitted,

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AMENDMENTS TO THE SPECIFICATION AND CLAIMS SHOWING CHANGES

IN THE SPECIFICATION:

Page 6, beginning at line 23, to page 7, line 11, amend the paragraph to read as follows:

-- According to the present invention, an apparatus for making a plurality of terminals have a random access to the reverse common channel of a base station in CDMA, comprises code synchronization detection information broadcast means provided in the base station for broadcasting the state information of a channel card in real time for the terminals to recognize the code synchronization detection when the code synchronization of a certain data is acquired through performing the code synchronization of the preambles transmitted from the terminals through the reverse common channel, and data transmission determination means provided in the terminals for making the terminals to have attempted data transmission in the same time slot with the data of the code synchronization detection [continuously transmit data] continue data transmission and the other terminals stop data transmission. --

Page 11, beginning line 21, to page 12, line 6, amend the paragraph to read as follows:

--The base station 200 is provided with code synchronization detection information broadcast means for broadcasting the state information of a channel card in real time for the terminals to recognize the code synchronization detection when the code synchronization of a certain data is acquired through performing the code synchronization of the preambles transmitted from the terminals through the reverse common channel. In addition, each terminal 100 is provided with data transmission determination means for making the terminals to have attempted data transmission in the same time slot with the data of the code synchronization detection [continuously transmit data] continue data transmission and the other terminals stop data transmission.

Page 19, lines 13 to 24, amend the paragraph to read as follows:

--In another aspect of the present invention, a method for making a plurality of terminals have a random access to the reverse common channel of a base station in CDMA, comprises the steps of broadcasting from the base station the state information of a channel card in real time for the terminals to recognize the code synchronization detection when the code synchronization of a certain data is acquired through performing the code synchronization of the preambles transmitted

from the terminals through the reverse common channel, and making the terminals to have attempted data transmission in the same time slot with the data of the code synchronization detection [continuously transmit data] continue data transmission and the other terminals stop data transmission.--

Amend the following claims as follows:

1. An apparatus for making a plurality of terminals have a random access to the reverse common channel [system] of a base station in CDMA, comprising:

code synchronization detection information broadcast means provided in said base station for broadcasting the state information of a channel card in real time for said terminals to recognize the code synchronization detection when the code synchronization of a certain data is acquired through performing the code synchronization of the preambles transmitted from said terminals through said reverse common channel; and

data transmission determination means provided in said terminals for making the terminals to have attempted data transmission in the same time slot with the data of said code synchronization detection [continuously transmit data] continue data transmission and the other terminals stop data transmission.

13. A method for making a plurality of terminals have a random access to the reverse common channel [system] of a base station in CDMA, comprising the steps of:

broadcasting from said base station the state information of a channel card in real time for said terminals to recognize the code synchronization detection when the code synchronization of a certain data is acquired through performing the code synchronization of the preambles transmitted from said terminals through said reverse common channel; and

making the terminals to have attempted data transmission in the same time slot with the data of said code synchronization detection [continuously transmit data] continue data transmission and the other terminals stop data transmission.--